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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/720,532	11/24/2003	Jan Sudor	G-090US04DIV	4393

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EXAMINER	
CHANG, ROSIE YUH LOO	
ART UNIT	**PAPER NUMBER**
1762	

DATE MAILED: 12/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/720,532	SUDOR, JAN	
	Examiner	Art Unit	
	ROSIE YL CHANG	1762	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on *11/24/2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-11* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☒ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *4/20/2004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 1 recites the limitation " said fluid operation" in paragraph (c). It is not clear to what fluid operation Applicant is referring. There is insufficient antecedent basis for this limitation in the claim.

The term "Normally" in claim 1 is a relative term, which renders the claim indefinite. The term "normally" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 4-6, 10 and 11 are rejected under U.S.C. 102 (a) as being anticipated byThurow (US 4,783,441).

Thurow ('441) teaches a reaction mixture comprising a surface acting polymer (col. 5, line 7) in a buffer solution (Example 1; col. 6, line 7) to prevent adsorption of dissolved organic material, such as proteins, to a surface (col. 2, line 47-50). The surface acting polymer is reversibly adsorbed to the surface of a substrate (col. 2, line 53; col. 4, lines 45-55), which is non-covalent bonding. Following treatment with the surface acting polymer Thurow ('441) teaches that the substrates are then used in such fluid operations as gel chromatography or ultra filtration (col. 5, line 19) wherein (col. 7, example 5) 0.1% solution of human immunoglobulin-G is mixing with 0.1% of a surface adsorbing polymer in a buffer solution. Thurow ('441) teaches the surface acting agent can be added to protein solutions during processes for the preparation and purification of the protein(col. 5, line 15-16) and the surface acting agents do not take part as reactants in the fluid operation.

Regarding claim 10, Thurow ('441) teaches that surface acting polymer may be polypropylene glycol (Example 11).

Regarding claim 11, Thurow ('441) teaches that surface acting polymer may be block-copolymer of polyethylene glycol and polypropylene glycols having average total molecular weight of 12,500 Daltons (col. 8, line 5-8).

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 2, 10-11 are rejected under U.S.C. 102 (e) as being anticipated by Parce et al. (US 2005/0,238,545).

Parce et al. ('545) teach using a "operation control reagent" in the reaction of biochemical analyses, such as protein sizing separation, nucleic acid separation, drug screening, high throughput genetic analysis and the like fluid operation performed in a micro fluidic system (page 1, [0002]) to provide environmental control for the fluid operation. The operation control reagent, i.e., reaction mixture, comprising a surface adsorbing polymer (page 3, [0021]) in a buffered solution (page 4, [0031]) to prevent adsorption of dissolved organic material, such as proteins, to the microchannel surface (page 2, [0019]) which is non-covalent bonding. Parce et al. ('545) further teach that surface-adsorbing polymer (page 1, [0013]) is typically not involved directly in the reaction of interest, i.e. does not inhibit the fluid operation.

As for claim 10 and 11, Parcel et al ('545) teach the surface adsorbing polymer include linear cellulose polymers, agarose polymers, acrylic polymers, polyacrylamide polymers and polydimethylacrylamide polymers and copolymers of these.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 3-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Parce et al ('545) in view of Voss et al. (US 6,706,162)

Parce et al. ('545) teach that which is disclosed in the above. Parce et al. ('545) is silent concerning of the particular molecular weight of the surface-adsorbing polymer.

Voss et al. ('162) teach a reaction mixture for separating analysis of polymerase chain reaction (PCR) product (col. 1, line 28-30), wherein the reaction mixture consisting a surface interaction polymer (col. 2, line 26-27) to modify the capillary glass surface charge (col.1, line 58-65). Voss et al. ('162) further teach that the suitable surface interaction polymer including poly (N, N –dimethylacrylamide) and copolymer of polyacrylamide and poly (N, N-disubstituted acrylamide) with average molecular weight of 200,00 Dalton to 5,000,000 Dalton (col. 8, line 1-40). Since Parce et al. ('545) teach utilizing a surface adsorbing polymer, such as polyacrylamide to reduce adsorption of

protein to the substrate surface and Voss et al. ('162) teach utilizing the surface interaction polymer, such as polyacrylamide to minimize the surface charge of the glass surface in a fluid operation within a micro channel apparatus, therefore it would have been obvious to one of ordinary skill in the art to use the teach of Voss et al. ('162) in the teach of Parce et al. ('545) to minimize the surface charge effect as well as to prevent the adsorption of protein on the glass surface.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ROSIE YL CHANG whose telephone number is 571-272-6466. The examiner can normally be reached on MONDAY TO FRIDAY 7: 00AM TO 3:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, TIMOTHY MEEKS can be reached on 571-272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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KEITH HENDRICKS
PRIMARY EXAMINER